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Triaxiality and shape coexistence in ^{72,76}Ge: A model independent analysis.[1] AKAA DANIEL AYANGEAKAA, University of Maryland, ROBERT V. F. JANSSENS, ANL COLLABORATION, Argonne National Laboratory, LLNL COLLABORATION, Livermore National Laboratory, LBNL COLLABORATION, Berkeley National Laboratory, U OF MARYLAND COLLABORATION, University of Maryland, ROCHESTER COLLABORATION, University of Rochester — An exploration of the structure of Ge isotopes is important for understanding the microscopic origin of collectivity, the nature of deformation and modifications of shell structure in nuclei of the $N \sim 40$ mass region. The present study focuses on the electromagnetic properties of low-lying states in ^{72,76}Ge obtained via sub-barrier multiple Coulomb excitation with GRETINA and CHICO2. In the case of^{72}Ge, the extracted matrix elements agree with a shape coexistence interpretation between the 0_1^+ and 0_2^+ states, but require significant mixing between the 0^+ wavefunctions as well as triaxiality in order to reproduce the data. Similarly, the invariant sum-rule analysis of the ^{76}Ge data indicates that both the ground state and gamma bands are characterized by the same deformation parameters, with triaxiality ($\gamma \sim 30^\circ$) being important for a complete description. A summary of these results and data highlighting the nature of gamma deformation in ^{76}Ge - whether rigid or soft - will be presented.

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